Clean version of all pending claims

1. (Amended) A method for modifying the function of a target receptor associated with a neurological disorder in a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to a target receptor on a neuronal cell in the central nervous system of the subject, and modify the function of the target receptor, such that modifying the function of the target receptor protects against a neurological disorder.

2. The method of claim 1, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

3. (Amended) The method of claim 1, wherein the neurological disorder is selected from the group consisting of epilepsy, stroke, Alzheimer's disease, Parkinson's disease, dementia, Huntington's disease, amyloid lateral sclerosis and depression.

5. The method of claim 1, wherein the neurological disorder is epilepsy.

6. The method of claim 1, wherein the vaccine comprises an antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors, and cell surface molecules.

7. The method of claim 6, wherein the antigen is an N-methyl-D-aspartate (NMDA) receptor.

8. The method of claim 7, wherein the antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

9. (Amended) The method of claim 1, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

10. The method of claim 9, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

11. The method of claim 10, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

12. The method of claim 11, wherein the viral vector is an adeno-associated virus vector.

22. (Amended) A method for modifying the function of a target receptor associated with a neurological disorder in the central nervous system of a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to the target receptor on a neuronal cell in the central nervous system, and directly modifies the function of the target receptor, or indirectly modifies the function of a process involving the target receptor, such that the direct, or indirect modification protects against a neurological disorder.

23. The method of claim 22, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

24. The method of claim 22, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell-surface molecules.

25. The method of claim 22, wherein the vaccine comprises an antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

26. The method of claim 25, wherein the antigen is selected from the group consisting of an N-methyl-D-aspartate (NMDA) receptor, a glutamate receptor (GluR), an neuropeptide Y (NPY), galanin, an neurokinin-1 receptor (NK-1), a dopamine transporter and glutamic acid decarboxylase.

27. The method of claim 26, wherein the antigen is an N-methyl-D-aspartate (NMDA) receptor.

28. The method of claim 27, wherein the antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

29. (Amended) The method of claim 22, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

30 The method of claim 29, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

31. The method of claim 30, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

32. The method of claim 31, wherein the viral vector is an adeno-associated virus vector.

36. (Amended) A method for modifying the function of a target receptor associated with cognition in the central nervous system of a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to the target receptor, and modifies the function of the target receptor such that the modification of the target receptor improves cognition in the subject.

37. The method of claim 36, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

38. The method of claim 36, wherein the vaccine comprises an antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

39. The method of claim 38, wherein the antigen is an N-methyl-D-aspartate (NMDA) receptor.

40. The method of claim 39, wherein the antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

41. (Amended) The method of claim 36, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

42. The method of claim 41, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

43. The method of claim 42, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

44. The method of claim 43, wherein the viral vector is an adeno-associated virus vector.

54. (Amended) A method for [treating a subject with a neuroendocrine disorder, or at the risk of developing a neuroendocrine disorder] modifying the function of a target receptor associated with a neuroendocrine disorder in the central nervous system of a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an antigen, wherein the antigen elicits the production of antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated antibody, or an antibody portion, wherein the antibodies bind to the target receptor on a neuronal cell in the central nervous system of the subject, and directly modifies the function of the target receptor, or indirectly modifies the function of a process involving the target receptor, such that the direct, or indirect modification protects against a neuroendocrine disorder.

59. (Amended) The method of claim 54, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

60. The method of claim 59, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

61. The method of claim 60, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

68. The method of claim 54, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

B9 70. (Amended) A composition comprising a therapeutically effective amount of an NMDA antigen capable of eliciting the production of NMDA antibodies in the circulatory system of the subject, or a therapeutically effective amount of an isolated NMDA antibody, or an antibody portion, wherein the NMDA antibodies bind to an NMDA receptor on a neuronal cell in the central nervous system of a subject, and modify the function of the NMDA receptor in the central nervous system, such that modification of the NMDA receptor protects against a neurological disorder.

71. The composition of claim 70, wherein antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

B10 72. (Amended) The composition of claim 71, wherein the antigen selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors, transcription factors and cell surface molecules.

B11 74. (Amended) The composition of claim 70, wherein the antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

75. The composition of claim 70, wherein the target protein is selected from the group of neurotransmitters, neuroreceptors, transporters, ion channels, signal transduction molecules, enzymes involved in the synthesis or degradation of neurotransmitters, growth factors and transcription factors.

76. The composition of claim 75, wherein the target protein is an NMDA receptor.

Please add new claims 86 to 108.

86. A method for modifying the function of an N-methyl-D-aspartate (NMDA) target receptor associated with a neurological disorder in a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an NMDA antigen, wherein the antigen elicits the production of NMDA antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated NMDA antibody, or an antibody portion, wherein the antibodies bind to an NMDA target receptor on a neuronal cell in the central nervous system of the subject, and modify the function of the NMDA target receptor, such that modifying the function of the NMDA target receptor protects against a neurological disorder.

87. The method of claim 86, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

88. The method of claim 86, wherein the neurological disorder is selected from the group consisting of epilepsy, stroke, Alzheimer's disease, Parkinson's disease, dementia, Huntington's disease, amyloid lateral sclerosis and depression.

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89. The method of claim 86, wherein the neurological disorder is epilepsy.

90. The method of claim 86, wherein the NMDA antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

91. The method of claim 86, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

92. The method of claim 91, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

93. The method of claim 92, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

94. The method of claim 93, wherein the viral vector is an adeno-associated virus vector.

95. A method for modifying the function of a N-methyl-D-aspartate (NMDA) target receptor associated with a neurological disorder in the central nervous system of a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an NMDA antigen, wherein the antigen elicits the production of NMDA antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated NMDA antibody, or an antibody portion, wherein the NMDA antibodies bind to the target NMDA receptor on a neuronal cell in the central nervous system, and directly modifies the function of the target NMDA receptor, or indirectly modifies the function of a process involving the NMDA receptor, such that the direct, or indirect modification protects against a neurological disorder.

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96. The method of claim 95, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

97. The method of claim 95, wherein the NMDA antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

98. The method of claim 95, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

99. The method of claim 98, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

100. The method of claim 99, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

101. The method of claim 100, wherein the viral vector is an adeno-associated virus vector.

102. A method for modifying the function of a N-methyl-D-aspartate (NMDA) target receptor associated with cognition in the central nervous system of a subject comprising:

administering a vaccine comprising a therapeutically effective amount of an NMDA antigen, wherein the antigen elicits the production of NMDA antibodies in the circulatory system of the subject, or a composition comprising a therapeutically effective amount of an isolated NMDA antibody, or an antibody portion, wherein the NMDA antibodies bind to the target NMDA receptor, and modifies the function of the target NMDA receptor such that the modification of the NMDA receptor improves cognition in the subject.

103. The method of claim 102, wherein the antibodies pass across the blood-brain barrier into the central nervous system facilitated by injury, disease or excessive neuronal activity.

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104. The method of claim 102, wherein the NMDA antigen is N-methyl-D-aspartate receptor subunit 1 (NMDAR1).

105. The method of claim 102, wherein the vaccine is selected from the group consisting of a viral vector vaccine, a DNA vaccine, a peptide vaccine and a crude antigen vaccine.

106. The method of claim 105, wherein the vaccine is a viral vector vaccine comprising a viral vector selected from the group consisting of an RNA viral vector and a DNA viral vector.

107. The method of claim 106, wherein the viral vector vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.

108. The method of claim 107, wherein the viral vector is an adeno-associated virus vector.